

WHAT IS CLAIMED IS:

1 ~~1.~~ A method of modulating an inflammatory response in a mammal, the
2 method comprising administering to the mammal a compound that inhibits binding of a core
3 2 oligosaccharide to a receptor for the core 2 oligosaccharide.

1 2. The method of claim 1, wherein the method does not significantly alter
2 lymphocyte trafficking.

1 3. The method of claim 1, wherein the compound inhibits the enzymatic
2 synthesis of the core 2 oligosaccharide.

1 4. The method of claim 3, wherein the compound inhibits the enzymatic
2 synthesis of a minimal core 2 oligosaccharide.

1 5. The method of claim 3, wherein the compound inhibits the attachment
2 to the minimal core 2 oligosaccharide of one or more saccharide residues, which residues are
3 attached to the minimal core 2 oligosaccharide in the absence of the compound.

1 6. The method of claim 3, wherein the compound inhibits the amount of
2 core 2 GlcNAc transferase activity in the mammal.

1 7. The method of claim 6, wherein the compound inhibits expression of a
2 gene that encodes the core 2 GlcNAc transferase.

1 8. The method of claim 6, wherein the compound inhibits enzymatic
2 activity of the core 2 GlcNAc transferase.

1 9. The method of claim 1, wherein the receptor is P-selectin.

1 ~~10.~~ A method of modulating binding of a first myeloid cell to an endothelial
2 cell or to a second myeloid cell, the method comprising contacting the first myeloid cell with
3 a compound that binds to, or modulates the synthesis of, a core 2 oligosaccharide.

1 11. The method of claim 10, wherein the first myeloid cell is present in a
2 mammal.

1 12. The method of claim 10, wherein the first myeloid cell is selected from
2 the group consisting of neutrophils, eosinophils, monocytes, and granulocytes.

1 13. The method of claim 10, wherein the binding of the first myeloid cell to
2 the endothelial cell or to the second myeloid cell is inhibited.

1 14. The method of claim 13, wherein the compound inhibits synthesis of a
2 core 2 oligosaccharide on the surface of the myeloid cell.

1 15. The method of claim 14, wherein the core 2 oligosaccharide is a
2 minimal core 2 oligosaccharide.

1 16. The method of claim 14, wherein the core 2 oligosaccharide is a
2 modified core 2 oligosaccharide.

1 17. The method of claim 14, wherein the compound inhibits core 2 GlcNAc
2 transferase activity.

1 18. The method of claim 17, wherein the compound inhibits expression of a
2 gene that encodes the core 2 GlcNAc transferase.

1 19. The method of claim 18, wherein the compound is an antisense
2 oligonucleotide.

1 20. The method of claim 19, wherein the antisense oligonucleotide
2 hybridizes to an mRNA that encodes the core 2 GlcNAc transferase to form an
3 mRNA:antisense oligonucleotide hybrid.

1 21. The method of claim 10, wherein the binding of the myeloid cell to the
2 endothelial cell or to the second myeloid cell is enhanced.

1 22. The method of claim 21, wherein the compound comprises a
2 polynucleotide which encodes a core 2 GlcNAc transferase.

1 23. The method of claim 21, wherein the compound comprises a core 2
2 GlcNAc transferase polypeptide or active fragment thereof.

1 24. A method of identifying a compound for use in inhibiting an
2 inflammatory response in a mammal, the method comprising:
3 a) providing an assay mixture which comprises: a core 2 GlcNAc
4 transferase, a potential inflammation modulator, a UDP-GlcNAc sugar donor, an acceptor
5 saccharide, and additional reagents required for core 2 GlcNAc transferase activity;
6 b) incubating the assay mixture under conditions in which the core 2
7 GlcNAc transferase is active; and
8 c) determining whether the amount of GlcNAc transferred to the
9 acceptor saccharide is increased or decreased in comparison to an assay which lacks the
10 potential inflammation modulator;
11 wherein a potential inflammation modulator which results in a decrease
12 in GlcNAc transfer to the acceptor saccharide is suitable for inhibiting an inflammatory
13 response.

1 25. The method of claim 24, wherein the acceptor saccharide comprises a
2 structure $\text{Gal}\beta 1 \rightarrow 3\text{GalNAc-}$.

1 26. A method of identifying compounds for inhibiting an inflammatory
2 response in a mammal, the method comprising:
3 providing a cell which comprises a polynucleotide that encodes a core 2
4 GlcNAc transferase, an acceptor saccharide for the core 2 GlcNAc transferase, and UDP-
5 GlcNAc;

6 contacting the cell with a potential inflammation modulator and
7 incubating the cell under conditions in which the core 2 GlcNAc transferase is normally
8 expressed; and
9 determining whether the core 2 oligosaccharide level is increased or
10 decreased compared to the core 2 oligosaccharide level in the absence of the potential
11 inflammation modulator;
12 wherein a potential inflammation modulator that causes a decrease in
13 the amount of core 2 oligosaccharide produced is useful for inhibiting an inflammatory
14 response in a mammal.

1 27. The method of claim 26, wherein:
2 the cell further comprises one or more additional glycosyltransferases
3 and corresponding reactants that can add additional saccharide residues to the GlcNAc of a
4 minimal core 2 oligosaccharide to form a modified core 2 oligosaccharide;
5 and the level of core 2 oligosaccharide is determined by detecting the
6 presence or absence of the modified core 2 oligosaccharide.

1 28. The method of claim 27, wherein the presence or absence of the
2 modified core 2 oligosaccharide is detected by determining whether the presence of the
3 potential inflammation modifier results in a decrease in the ability of the cells to bind to a
4 receptor for the modified core 2 oligosaccharide.

1 29. The method of claim 28, wherein the modified core 2 oligosaccharide
2 comprises a polylactosamine moiety and the receptor is galectin-1.

1 30. The method of claim 28, wherein the modified core 2 oligosaccharide
2 comprises a SLe^x moiety.

1 31. The method of claim 30, wherein the receptor is a P selectin.

1 ~~32.~~ A method for identifying lead compounds that inhibit inflammation in a
2 mammal but do not inhibit lymphocyte-mediated immune responses, the method comprising

3 contacting a library of potential inflammation modulator compounds with a core 2
4 oligosaccharide and identifying potential inflammation modulator compounds that bind to
5 the core 2 oligosaccharide, wherein a compound that binds to the core 2 oligosaccharide is a
6 lead compound suitable for further testing as an inflammation modulator.

1 33. The method of claim 32, wherein the method further comprises testing
2 the lead compound by determining whether the lead compound inhibits binding of a core 2
3 oligosaccharide with a corresponding receptor.

1 34. The method of claim 33, wherein the receptor is P-selectin.

1 35. The method of claim 32, wherein the method further comprises testing
2 the lead compound by administering the compound to a test animal and determining whether
3 an inflammatory response by the test animal to a stimulus is reduced or prevented by
4 administration of the compound.